

## عنوان مقاله:

Development of an ensemble learning algorithm based on neuralnetwork multi-objective optimization in supplier selection: a casestudy, SAPCO Parts Supply Company

## محل انتشار:

دومین کنفرانس بین المللی بهینه سازی سیستم های تولیدی و خدماتی (سال: 1401)

تعداد صفحات اصل مقاله: 10

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## خلاصه مقاله:

Nowadays, one of the key components in the supply chain is the evaluation and selection of supply chain management. Taking into account many effective factors in monitoring and decision making has turned this problem into a multi-objective problem, on the other hand, the existence of competition makes finding suppliers of materials, goods and semi-finished parts difficult. Because, with the expansion of societies, there are more options to choose business partners. It is clear that taking this managerial decision with traditional statistical and mathematical methods, will not be efficient. Studies show that modern technologies and innovations, including methods based on artificial intelligence and machine learning, which have the ability to solve complex models, have performed better. In this regard, in this research, a multi-objective optimization algorithm MOEA/D is used to find the optimal architectures as the input of the neural network. Next, after obtaining the Pareto front including the most optimal architectures, each one as a neural network different from the other forms the basic models in a collective solution algorithm. It is clear that the simultaneous use of several decision-making networks can significantly increase the prediction accuracy. The performance of the proposed model was evaluated based on different evaluation criteria on a dataset from IKCO Engineering Design and Parts Supply Company, SAPCO, which is the largest industrial group in Iran. The obtained results indicate the high accuracy of the proposed model compared to other methods for predicting the efficiency of each of the suppliers in this company.

## کلمات کلیدی:

Supply chain management, data envelopment analysis, artificial neural networks, ensemble learning

## لینک ثابت مقاله در پایگاه سیویلیکا:

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